BULLETIN OF THE
SCHOOL OF EDUCATION
INDIANA UNIVERSITY

Vol. III BLOOMINGTON, INDIANA No. 1

SEPTEMBER, 1926

Entered as second-class mail matter September 30, 1924, at the postoffice at Bloomington, Indiana, under the Act of August 24, 1912. Published six times a year from the University Office, Bloomington, Indiana.

Students' Attitude toward Examinations

By GROVER T. SOMERS

Associate Professor of Education
Indiana University

EDUCATION READING ROOM
2 HR RESERVE

Bureau of Cooperative Research, Indiana University School of Education

HENRY LESTER SMITH, Director

INDIANA UNIVERSITY
EDUCATION
READING ROOM

Price, 50 cents. For sale by the University Bookstore, Bloomington, Ind.

A limited number of copies of this bulletin will be distributed free of charge to citizens of Indiana.

BULLETIN OF THE SCHOOL OF
EDUCATION, INDIANA UNIVERSITY

Students' Attitude toward Examinations

By GROVER T. SOMERS
Associate Professor of Education
Indiana University

Published by the
BUREAU OF COÖPERATIVE RESEARCH
INDIANA UNIVERSITY

INDIANA UNIVERSITY
EDUCATION
READING ROOM

Contents

Page

INTRODUCTORY STATEMENT 5

PART I

A. THE PROBLEM 6
I. Existing Conditions 6
II. Problem Stated 6

B. PLAN OF ATTACK 7
I. Groups Studied 7
1. Teachers (45) as Reference Point 7
2. College Students (163) 8
II. Measuring Instrument (See Appendix) 8
1. Fourfold in Nature 8
2. "Crucial" and "Non-Crucial" Elements 9
3. Judgment of both *Order* and *Degree* 9
4. Harmony and Consistency of Parts 9

C. FACTS DISCOVERED 10
I. Comparison of Results 13
1. In Terms of Pleasantness 13
2. In Terms of Value 16
3. In Terms of Moral Acts 19
4. In Terms of Purpose and Function 22

D. CONCLUSIONS AND SUGGESTIONS 23
I. What Students Think about it 23
II. What Both Groups Think about it 23

PART II

A. THE NEXT STEP 24
I. Change of Form and Use 24
1. Character and Use of Tests as a Possible Cause 24
2. Effect of Forms of Test on Attitude 24
3. Effect of Forms of Test on Achievement 25

B. COMPARISONS OF RESULTS 25
I. In Attitude Later 25
1. In Terms of Pleasantness 25
2. In Terms of Value 27
3. In Terms of "Rules of the Game" 29
4. In Terms of Purpose and Function 31
5. In Terms of Preferred Types of Tests 33
II. In Ability and Achievement 36
1. Ability of the Two Groups Compared 41
2. Course Marks (Records) 41

Page

C. CONCLUSIONS AND SUGGESTIONS 41

1. As to the sufficiency of a semester's experience in taking the new type tests 41
2. As to the final attitude of the experimental group in comparison with the control group 41
3. As to the relative abilities of the two groups and a comparison of the outcomes with each group 41
4. As to the initial and final attitude of both groups in comparison with that reflected in educational literature of the present 41
5. As to the probable remedy in reconstructing or developing desirable attitudes toward examinations 42
6. As to a promising service of the new type tests in connection with the educative process and our educational program 42

APPENDIX 43

Students' Attitude toward Examinations

By GROVER T. SOMERS, Associate Professor of Education,
Indiana University

INTRODUCTORY STATEMENT

IN recent years the problem of examinations has been viewed by teachers and educational engineers from many different angles. In some institutions, or departments, or courses, there is a growing tendency either toward the abolition of the set examination altogether or toward a genuine revision and reconstruction of it. Exemptions on the basis of high-grade (superior) daily recitation and periodic tests are practiced in many quarters, and with an increasing number of teachers the newer type tests and examinations are finding favor. The feeling is general that the examination, as an instrument of education, is satisfactory neither to teachers nor to students. Nor are we certain that it has served the purpose for which it was designed.

It was with the purpose (1) of determining objectively, in so far as this was practical, the attitude of students toward this common educational instrument; and (2) of ascertaining to what extent the newer type tests offer help in changing for the better the attitudes that commonly obtain in the students of college level. The investigation was conducted under the auspices of the Bureau of Educational Research and it very properly belongs among the Bureau studies.

PART I

THIS study is composed of Parts I and II, the former dealing with a survey of students' attitudes toward examinations and the latter reporting a brief experiment involving the use of the newer type tests both in conjunction with the traditional examinations and alone. The first half (Part I) is devoted to a determination of attitudes and feelings of college students toward the whole matter of examinations as they are now presented and used and the purpose which they are made to serve. What is the purpose and function? The value and benefit? Acceptability and agreeableness of the activity involved in preparation for and taking them? And so forth.

A. THE PROBLEM

I. EXISTING CONDITIONS

Casual observation and inquiry, supplemented by a brief self-examination, would lead one to conclude that the student's attitude is strikingly unfavorable if not seriously hostile toward examinations generally. Occasional remarks would seem to indicate that they consider this instrument an ever-present feature of school activity—as an evil to be endured. They would willingly forego the inherent benefits, if benefits there be, by abolishing the practice. And many teachers might be found to join hands in the common cause!

Recently we had occasion to mention the subject in the presence of a college group, and a teacher who had recently passed thru the student experience quickly suggested that any student could tell you how to change (improve?) attitudes toward examinations. "Make them easier" was the remedy proposed! But will "making them easier" meet adequately the requirements of the case? If we mark on a "comparative basis" as is now being urgently—and quite properly, I think—proposed, does it make any material difference how difficult or how easy, in an absolute sense, we make our examination exercises? And if it is understood generally that the exercises are to be so very easy that a large percentage of students will be able to score high on them, how many students, may we ask, will be stimulated to apply themselves in study or review to benefit in a large way therefrom? If examinations have a value in stimulating study, resulting in growth and development, it would seem to be desirable to stimulate activity to a practical maximum rather than to a meager minimum.

The problem is probably not so simple nor the solution so obviously childlike. The chances are many to one that the hostility is deep-seated, and to change it appreciably will require a thorogoing study and the application of a multiform therapy more far-reaching than the present inquiry dare contemplate. There are causes—many perhaps—operating which must be discovered before definite remedies can be proposed and applied. What the situation really is must be determined with greatest care and by the most promising technique available.

II. PROBLEM STATED

We need first to determine in so far as it may be possible what the attitude toward tests and examinations—recognized as vital, essential, and necessary parts or features of school work—really is. (The question of abolishing examinations has been proposed and debated for many years [and perhaps decades], but the instrument in one form or another is still with us and presumably to stay. We accept its existence and persistence as a fact, but its form is rapidly undergoing radical changes.) And secondly, if the attitude proves to be as highly undesirable as it is sometimes represented to be we need to ascertain the cause or causes—and if it be due to the nature, form, or use of the instrument itself, seek possibilities of necessary modification and effective change.

We are confronted at the very outset with two fundamental problems (questions): definition of standards, and measuring instrument. What constitutes desirable or standard attitude toward examinations and what measuring instrument will reveal the level of attitude which obtains? We know what constitutes standard height or standard weight for any age group and we know the relatively simple instruments to be used in determining them. Nor would the problem of measurement be difficult to carry thru. Not so with our present problem. We have neither tables and accepted standards to refer to nor the simple foot rule or pound weight to apply. It has been necessary to construct a measuring rod and to devise a standard or criterion for evaluating attitudinal reactions of individuals or groups.

This question of attitude seems to be linked up with at least four fundamental problems and divides itself logically into four parts. Our (measuring) instrument must consequently provide for the tapping of each phase. What is felt to be the purpose and function of examinations generally; in how far are they valuable; to what extent are they pleasant or unpleasant; and what should be the "rules of the game"? Impossible of frontal attack, the instrument, in the nature of the case (problem and materials), must of necessity be an indirect one. To inquire directly what the patient's attitude toward a physician's instrument is, might, and most probably would, seriously prejudice his response. If the patient had recently survived its use his attitude would probably be far more favorable than that of one who had suffered, or thought he had, as a result of its application. One who rates low on an examination is inclined to be somewhat hostile toward it, while one who rates high is favorable and prone to praise it!

Assuming that teachers—who purpose, plan, and apply examinations—are valuable and proper guides for students, not only in matters of fact and information, but also in the more subtle virtues of interest, attitude, and point of view, it is seemingly safe to accept their attitude as standard for our present purpose, tentatively at least. Doubtless an ideal group of teachers, if such there be, would be the sort of group to select, but in the absence of an ideal group we have had to resort to a more or less typical group of well-trained and widely experienced teachers.

B. PLAN OF ATTACK

I. GROUPS STUDIED

1. Teachers (45). Forty-five elementary, high school, and normal school teachers actively engaged in school work in western Indiana and eastern Illinois constitute the group chosen. Eighteen (or 40 per cent) are teaching in the elementary school, 24 (or 51 per cent) in the high school, and 4 (or 9 per cent) in normal school. Twenty-five of them are college graduates with one or more graduate courses in education to their credit, and the teaching experience of the entire group ranges from 1 to 31 years with the average at 12.5 years.

TABLE I.—CHARACTER OF THE STUDENT GROUP

Age	Median 19.5 years, Range 16-27	
Educational Level	Median 2d year College	43 per cent Freshmen 23 per cent Sophomores 22 per cent Juniors 12 per cent Seniors 5 per cent Graduates
Educational Aim	Median College Graduation, Range 1-5 years	
Vocational Choice	98 per cent Teaching	
Teachers in Family	50 per cent Teacher Homes	18 per cent Fathers 16 per cent Mothers 13 per cent Brothers 21 per cent Sisters
Father's Occupation	80 per cent Father and Brother	46 per cent Agriculture 34 per cent Business and Clerical 16 per cent Professional 12 per cent Skilled and Unskilled
Family Income	Median $3,000, Range $800-$15,000	
College Expenses	Paid by student	None 38 per cent Cases In part 38 per cent Cases Wholly 24 per cent Cases

2. Students (163). The typical student in our group is between nineteen and twenty years of age, having completed four years of high school and one and one-half years of the college course with a view to teaching in the secondary school. Both parents are living and have an annual family income of approximately $3,000, which serves to support her or him at college (wholly or in part in 76 per cent of the cases, while 62 per cent support themselves wholly or in part) and the other three children. She (or he) comes from the agricultural or business and professional home chiefly—46, 34, and 12 per cent respectively—and has enjoyed somewhat above average social and cultural opportunities and advantages.

II. FORM AND FEATURES OF THE INSTRUMENT EMPLOYED (REACTION SHEET*)

1. Fourfold Form—Four Phases. The blank used provides for the tapping of attitudes from four different angles.

(*a*) **From the standpoint of pleasantness or acceptability of the activity.** Things considered pleasant, other things being equal, are sought after and when possible repeated, whereas those considered unpleasant or unacceptable are likewise shunned and avoided.

(*b*) **From the standpoint of the value or worth of the activity.** In like manner and by the same sign things viewed as being valuable and

* For copy see Appendix.

worth while, other things considered, are sought after and used and directed toward definite ends, whereas those considered worthless are avoided whenever possible.

(*c*) From the angle of certain possible acts attendant upon preparing for and taking examinations. Acts in conformity with one's own moral standards and past performances will, other things being equal, be persisted in and perfected, whereas if they are against such standards and contrary to such performances they will, other things considered, be avoided and frowned down upon.

(*d*) From the standpoint of definite purpose and function. If considered as a means of measuring teaching effectiveness, basis for remedial instruction, with the possibility of future good to the individuals undergoing the experience instead of a means for final ratings and term placement, more serious endeavor for an exact measure of achievement would be undertaken and fuller coöperation to that end would result.

2. "Crucial" and Non-Crucial. It is highly desirable in the interest of scientific truth and reliability of results of such investigation to avoid prejudicing reactions by suggestion or otherwise. Students are prone to react in harmony with or in conformity to the teacher's ideas and wants and viewpoint. And they are constantly studying the teacher's views and consciously and unconsciously formulating responses to tally thereunto. "I don't know exactly what you mean" or "Is that what you want?" are expressions not altogether uncommon in the classroom.

To avoid this difficulty we lodged the "critical elements" among a number of "harmless items" and asked for a comparison without indicating in any way the purpose of any part of it. The students were instructed to do certain things: place the elements in the order judged by themselves and place such items on the scale at some point where they thought they belonged, with the understanding that their answers to the questions had nothing to do with their marks in any course, and that no one really knew what the proper answers are at present but that we were taking this means of finding out what they thought about it.

3. Judgment of Order and Degree. For purposes of checking results obtained it was decided to ask for both an order and a degree arrangement. We desired to know to what extent the two arrangements would be in harmony. The former calls for a mere judgment of preference, and consequently a comparatively simple act; the latter for not only a judgment of preference but in addition a judgment of "how-much-more-according-to-the-scale," and therefore a much more difficult act. It is interesting to note in how far the two arrangements are approximately identical. (See Charts I, II, III, IV.)

4. Harmony of Parts. An inspection of the reaction blank in the appendix will reveal the relationship of the divisions and the interdependence of them.

(*a*) *Relation of No. 1 (Pleasant-Unpleasant) to Other Parts.* If taking examinations is regarded as highly pleasant as an activity we

should anticipate an endeavor on the students' part to avail themselves of the opportunity as a rare privilege, as one of my normal school administrative acquaintances once remarked, whenever possible, and to carry out the task fairly and honestly as you would prosecute a game of solitaire.

If regarded as depressingly unpleasant, on the other hand, we should look for attempts to avoid examinations whenever possible and to use unfair tactics more frequently when subjected to them and to judge such tactics not too harshly from a moral standpoint.

(*b*) *Relation of No. 2* (*Valuable-Worthless*) *to Other Parts.* If examinations are considered of great value we should anticipate a growing tendency on the student's part to welcome the test, a willingness to prepare generally and specifically for it, and a further inclination to seek a fair measure of their achievement and ability—not a "borrowed" one—in the subject or field.

If examinations are looked upon as of little value and small consequence personally, a proneness to avoid, evade, and skim thru is to be consequently expected. Human kind is prone to skip over the worthless and inconsequential matters of life and to center on those considered valuable and worthwhile.

(*c*) *Relation of No. 3* (*Moral-Immoral*) *to Other Parts.* If it is considered morally permissible to "help and get help" on examinations—the means being justified by the end or goal—we should expect a relatively low value to be placed upon the examination as an educative experience, a proneness to loaf during the term, a laxness in review and preparation for the final test, and a trust to circumstances—planned or otherwise—to "get by."

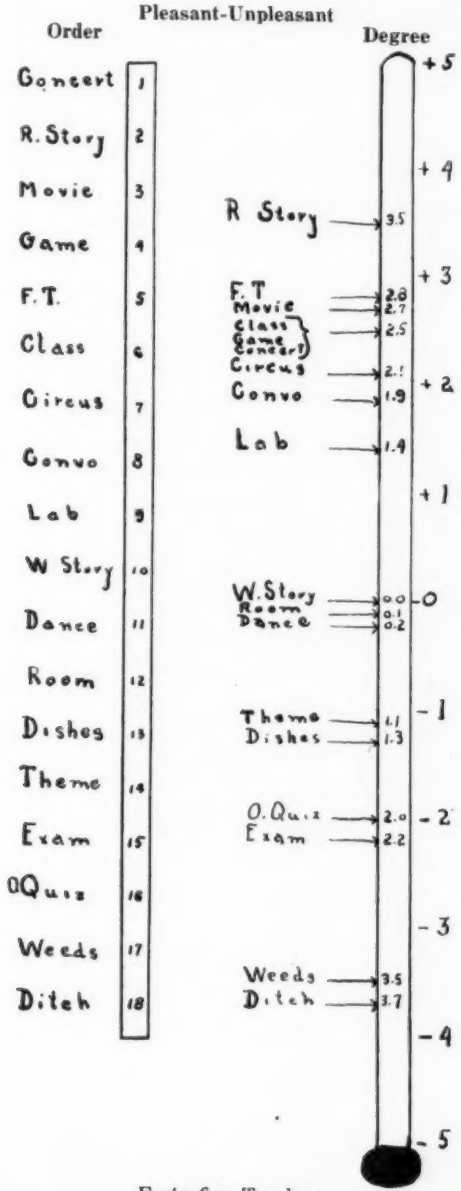
If cheating or being a party thereto is looked upon as a bad practice, application to work thruout the term would be steadier and a review for the final test would be more thorogoing. Moreover, the activity would probably come to be looked upon as a far more agreeable experience and more worth while than is the case at present.

(*d*) *Relation of No. 4* (*Purpose and Function*) *to Other Parts.* If examinations are conceived of as a means of enabling students and teachers to measure ability and achievement with the purpose of following up for the good of both, greater value would attach thereto, more pleasant associations connect therewith, and a moral obligation to hew to the line fairly and honestly would be one of the obvious outcomes anticipated and expected.

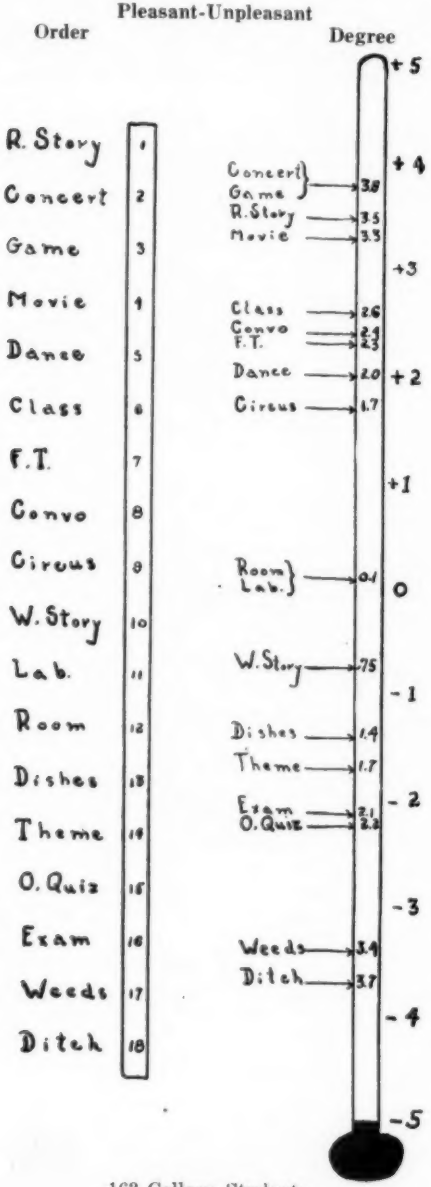
If examinations are considered as a means of winning a certain reward—mark or grade—no such value would attach itself thereto and no such fairness and honesty could reasonably be expected to result.

C. FACTS DISCOVERED

The facts portrayed in Charts I-IV reveal in a very close measure striking similarities in the attitudes of students and teachers from all four angles or points of view. An inspection of these charts singly and in comparison will reveal the conditions in each group.



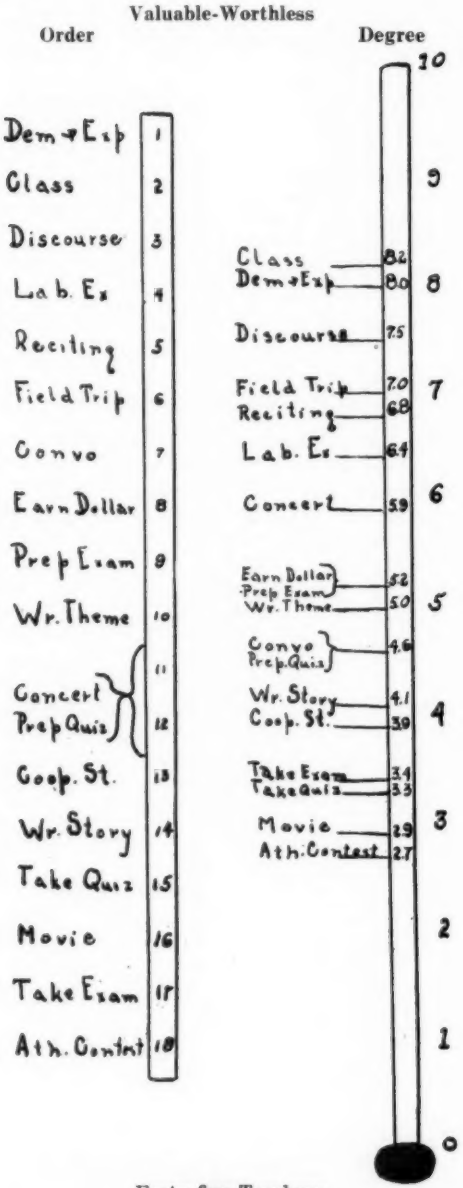
Forty-five Teachers
CHART I(a)



163 College Students
CHART I(b)

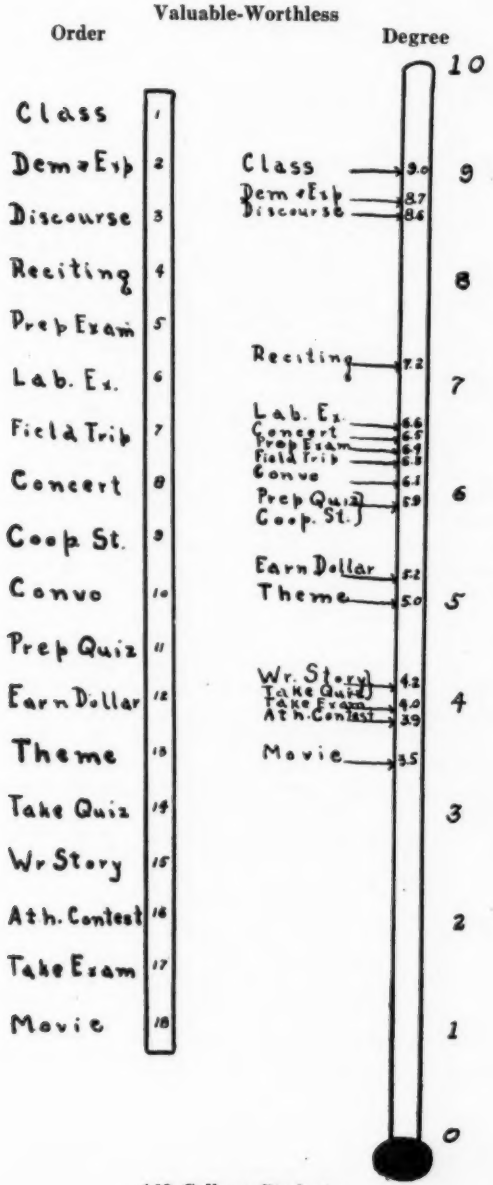
I. COMPARISON OF RESULTS

1. In Terms of Pleasantness. From even a cursory inspection of the charts there may be seen some strikingly similar results from the two groups, and, on the other hand, some equally wide differences. In Charts I(a) and I(b), eight of the "items" (Nos. 6, 8, 10, 12, 13, 14, 17, 18) were given the same relative "pleasant-unpleasant" position by both groups and six others (Nos. 1, 2, 3, 4, 15, 16) only one point displacement each. "Written examination" and "oral quiz" were given respectively fifteenth and sixteenth positions by the teacher-group and the reversal by the student-group. The one outstanding point of disagreement—the one item toward which the attitude was widely different—in this pair of charts is "attending a dance," which was assigned eleventh position by teachers and fifth place by students, registering on the thermometer slightly below zero with the former and at 2 above with the latter. Not a surprising difference perhaps in the days of the Charleston and other more or less agile and fragile trippings!



Forty-five Teachers

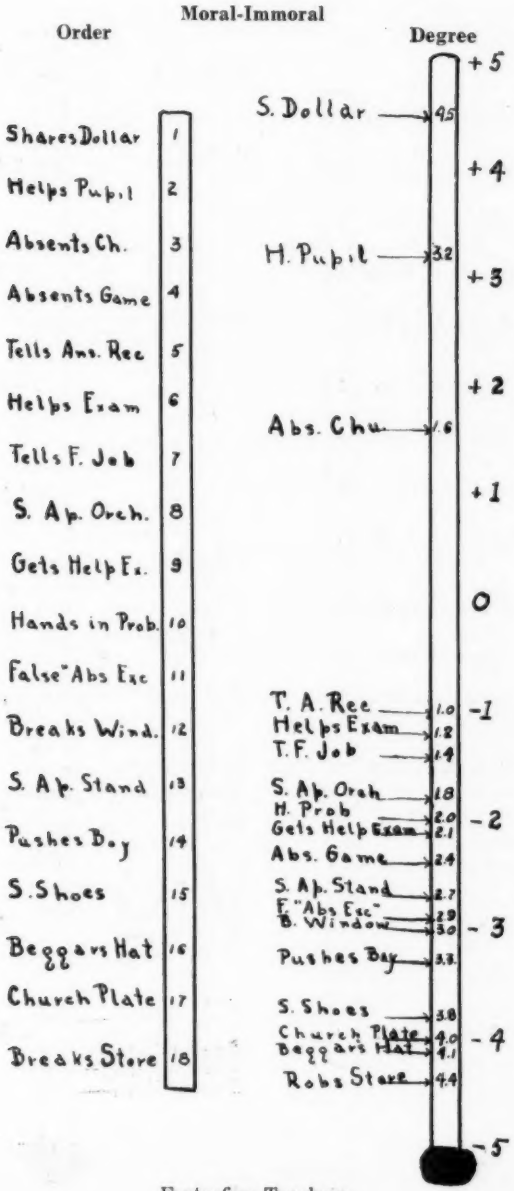
CHART II(a)



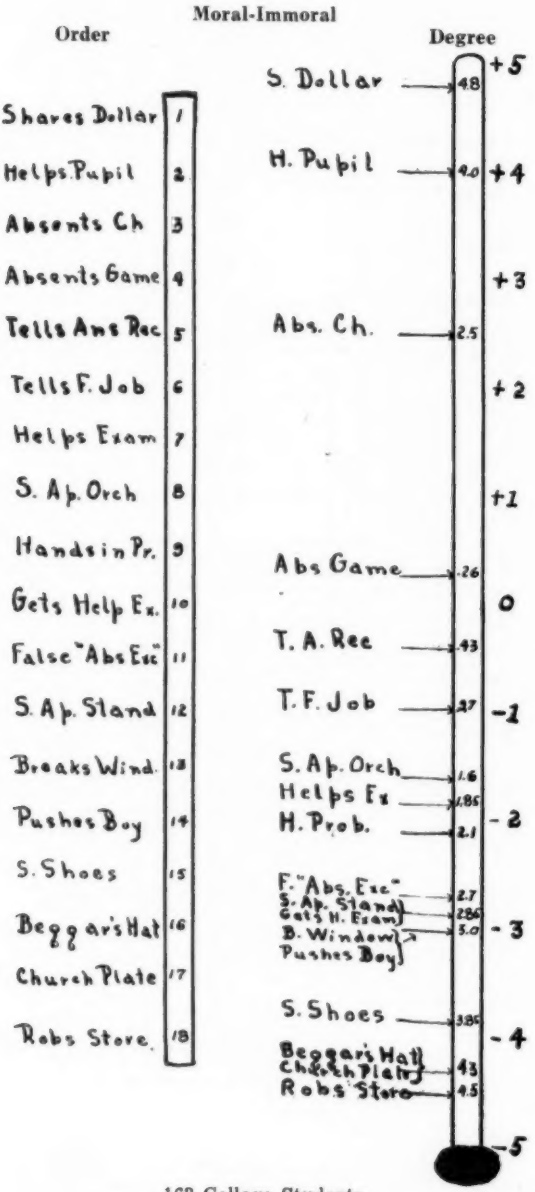
163 College Students
CHART II(b)

2. In Terms of Value. In Charts II(a) and II(b) we find three "items" (Nos. 2, 11, 17) assigned the same relative "valuable-worthless" position by the two groups, and six others (Nos. 1, 2, 5, 7, 14, 15) only one place removed. "Take quiz" and "take exam" are placed in the same relatively low positions by the two groups. In matter of degree the same range occurs as between the two groups—teachers 2.7 to 8.2, students 3.5 to 9.0—the latter estimating approximately one degree higher on the average for the different items, the four lowest and the three highest items registering the same relative position on the two thermometers.

Striking differences may be noted, however, in two items, "preparing for examination" and "coöperative study," the former being placed fifth by students and ninth by teachers, and the latter sixth and ninth by the two, respectively. The former registers on the student thermometer at 6.4 and on the teacher thermometer at 5.2, while the latter registers on the two thermometers at 5.9 and 3.9, respectively. Facts are not available to supply a satisfactory and conclusive explanation. It may be that the teachers are somewhat removed from the experience—having to depend very largely upon their own efforts and individual resources—and consequently place relatively small value on it, whereas students frequently work together—sometimes under a capable leader and sometimes two or three roommates or friends of approximately equal ability—in preparing daily work as well as in reviewing for examination.



Forty-five Teachers
CHART III(a)



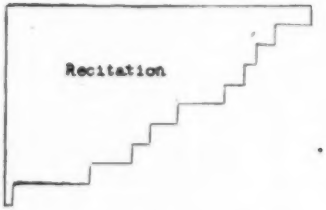
163 College Students
CHART III(b)

3. In Terms of Moral Acts. Charts III(a) and III(b) reveal some very interesting facts. In the order arrangement 10 items are given identical positions by the two groups, and the remaining 8 are each assigned only one place removed. In degree we find approximately the same range and the same items at the extremes on each (both) thermometer(s). It is a bit surprising to find students judging unacceptable and immoral acts connected with written work in school, such as "pledged" papers and the like, somewhat farther below zero than do the teachers. Both groups, however, assigned "giving help," "getting help," and "copying problems" appreciably below zero. The position of some of the more crucial items in this list should be noted as follows:

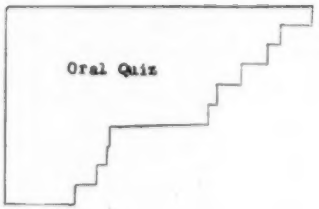
Judged by Teachers		*Judged by Students*	
Gives help on exam.....	—1.2	Gives help on exam.....	—1.85
Hands in copied problem..	—2.0	Hands in copied problem..	—2.1
Gets help on exam.....	—2.1	Gets help on exam.....	—2.85
Steals apple from stand...	—2.7	Steals apple from stand...	—2.85
Steals shoes from store....	—3.8	Steals shoes from store....	—3.85

The student group looks upon the acts of stealing apples from a fruit stand and getting help on a written examination as being equally immoral—slightly more than half way from the neutral point to the most immoral act and about as far below "giving help" as is "stealing shoes" from a store below getting help. The teacher group assigns "getting help" to a point on the scale about as far below "giving help" as is "stealing apples from a fruit stand" below "getting help." "Handing in copied problems" is placed about two steps below zero by each group; below "giving help" but above "getting help" on a formal examination.

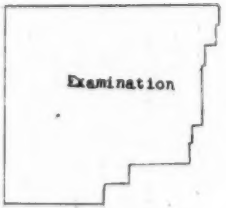
Purpose and Function of:



1. Opportunity for self-expression and development
2. Opportunity to clarify thinking
3. Opportunity for interchange of ideas
4. Means of stimulating study
5. Opportunity for developing methods of study
6. Opportunity for teacher's explanations
7. Opportunity for drilling on important facts
8. Means of measuring student's expression
9. Means of measuring student's knowledge
10. Opportunity to reproduce text-book materials



1. Basis for remedial instruction
2. Means of developing self-expression
3. Means of stimulating study
4. Basis for measuring application
5. Means of improving instruction
6. Basis for measuring knowledge
7. Basis for final marks
8. Opportunity for teacher's enjoyment
9. Means of keeping students busy
10. Opportunity for student's enjoyment



1. Means of measuring student's ability to think
2. Basis for comparing achievement
3. Basis for measuring student's knowledge
4. Means of stimulating students to review
5. Means of stimulating students to study
6. Opportunity for self-expression and development
7. Means of measuring results of teaching
8. Means of emphasizing and impressing important facts
9. Basis for term marks
10. Means of measuring memory ability

Forty-five Teachers

CHART IV(a)

Purpose and Function of:

Recitation	Oral Quiz	Examination
1. Opportunity for self-expression and development	1. Means of stimulating study	1. Basis for measuring knowledge
2. Opportunity to clarify thinking	2. Basis for remedial instruction	2. Means of impressing important facts
3. Opportunity for interchange of ideas	3. Basis for measuring application	3. Means of measuring ability to think
4. Means of stimulating study	4. Basis for measuring knowledge	4. Basis for comparing achievement
5. Opportunity for teacher's explanation	5. Means of developing self-expression	5. Basis for term marks
6. Opportunity for developing methods of study	6. Means of improving instruction	6. Means of measuring results of teaching
7. Means of measuring student's expression	7. Basis for final marks	7. Means of stimulating students to study
8. Means of measuring student's knowledge	8. Means of keeping students busy	8. Means of stimulating students to review
9. Opportunity for drilling on important facts	9. Opportunity for student's enjoyment	9. Opportunity for self-expression and development
10. Opportunity to reproduce text-book materials	10. Opportunity for teacher's enjoyment	10. Means of measuring memory ability

163 College Students

CHART IV(b)

4. In Terms of Purpose and Function. People, to feel kindly disposed toward an object or activity, must be made to see that the thing itself has something of value for them, that it is somehow vitally related to one or more of their life needs, that it will aid them in attaining it, and without entailing too great an effort or arousing undesirable and unpleasant emotional feeling in a high degree. To have them feel that it is a "matter of life and death" with them, however, would be overdoing it and would lead to harmful results generally. We should strive to make every examination exercise yield a "return value" to the student who takes it—fully compensating him for time and effort involved—and to make him clearly conscious of its benefits.

A comparison of Charts IV(a) and IV(b) reveals a state of affairs quite different from what we think should obtain. When students consider "measuring knowledge," "impressing important facts," and "basis for term marks" as among the chief purposes and functions of examinations—giving them first, second, and fifth positions, respectively, over against third, eighth, and ninth assigned by teachers—a feeling of hostility and dread is the logical consequence. A different conception of the purpose and function of written examinations might reasonably be attended by a more favorable feeling and attitude toward them. It will be interesting to follow this up as the investigation proceeds, and perhaps it will be worth while.

The purpose and function of tests and examinations as reflected in present-day educational thinking, as stated by Ruch* (pp. 3-4) is far different from the conception pictured in Charts IV(a) and IV(b). He lists four chief values as follows:

(*a*) *Motivation.* "Educators seem to be agreed that pupils tend to accomplish more when confronted with the realization that a day of reckoning is surely at hand . . . and . . . direct experiment is proving the fundamental truth of our assumptions."

(*b*) *Training in Written Expression.* "The accomplishment of training in written expression is undoubtedly one of the important desiderata of education. . . . This purpose for the examination may therefore be admitted."

(*c*) *Measurement.* "Measurement has generally been the most conscious aim of all. . . . Examinations and measurements are the instruments by which the results of education can be evaluated." (Results not merely of pupils' efforts but of teaching technique as well!)

(*d*) *Basis for Next Step in Teaching.* Measurement is implied here! We need to know where we are and how fast we are moving to be able to direct intelligently our efforts and energies and to apply outside forces.

* Improvement of Written Examinations.

D. CONCLUSIONS AND SUGGESTIONS

I. WHAT STUDENTS THINK ABOUT IT

Students' attitude toward tests and examinations seems to be defective in certain particulars, as follows:

1. They think of an examination too much as an end to be achieved in and for itself or as a basis for term marks or grades.

2. They seem disposed to place relatively small value in the preparation for and the experience connected with an examination.

3. They feel unkindly disposed toward taking examinations because it means for them extremely unpleasant experience, approximately on a par with menial labor. It is comparable in this respect to those undesirable and unacceptable activities which are forced upon us but which we avoid whenever possible.

4. Close agreement in general is found to obtain between the preferences and judgments expressed by the two groups (representative teachers and students), as indicated by the following coefficients of correlation. Pleasant-Unpleasant r .94; Valuable-Worthless r .91; Moral-Immoral r .99; Purpose and Function of (1) Recitation r .95; (2) Oral Quiz r .85; (3) Examination r .39. Appreciable difference only in the last named—written examination!

II. WHAT BOTH GROUPS THINK ABOUT IT

The problem confronts us and what may we do about it?

1. The situation seems to demand that something be done by teachers and school people generally to develop a different conception of the purpose and function of testing and to mold a more wholesome and favorable attitude toward it.

2. We need to scrutinize very carefully our own notions about the subject; the suggestions we give concerning it; the purpose we make it serve in our own work; and content given and forms employed.

3. We further need a philosophy of testing as well as a science of measurement—the two to be in harmony, approximately at least.

PART II

THIS part of the study is concerned with reporting the results of changes in attitudes found to exist in these same students after one semester's experience with the new type tests when used to serve valuable purposes in the educative process. The whole number was divided into two comparable groups one of which served as experimental and the other as control.

A. THE NEXT STEP

I. CHANGE OF FORM AND USE

The question of the character of tests and examinations has been discussed and debated from time to time and suggestions proposed for definite and radical change in both content and form. Serious weaknesses and defects of the traditional examination have been pointed out but chiefly for other reasons than those of molding students' attitudes toward them. They lend themselves more readily to exact and unprejudiced measurement of student attainment and to quantitative evaluation of teaching effectiveness. These are now generally accepted virtues of the newer type tests. It may be, however, that they possess a value for correcting improper and undesirable attitudes and for molding proper ones. Only careful and scientific experimentation can determine if such be true and to what extent.

1. Character and Use of Tests as a Possible Cause. Defects of the traditional examination—form, content, or purpose which it is made to serve—as possible "causes" of casual criticisms by students! Not infrequently they feel that too much emphasis is placed upon and importance attached to examination marks; that teachers are prone to inaccuracy and prejudice in scoring and grading the papers; and that there is too great an element of chance or luck—good or bad, especially the latter—on the necessarily few questions given. Class attendance, consistent application, and systematic preparation are too lightly regarded, and an unduly high premium placed on pleasing personality, expanded verbosity, and ability to spot the instructor. May it not be well to take cognizance of such current criticisms?

That is what we planned to do in the second part of the study, and the question as to the effect of the newer type tests on the student's attitude was investigated with the following results discovered. It was necessary to extend the inquiry over the semester to determine the effect of the technique employed before reporting the outcome. Four sections thruout the second semester paired in two courses in Education, two experimental and two control or check groups, were used in the study, and later we hope to extend it to other and larger groups.

2. Effect of Forms of Test on Attitude. Tests of the new type were given periodically exemplifying the more important values, sometimes introducing new material, at other times checking up on ground already covered; sometimes reviewing subsequently the results, at other

times not; sometimes having students score their own papers, and again having the instructor do the scoring—demonstrating rather than pointedly discussing possible virtues and values.

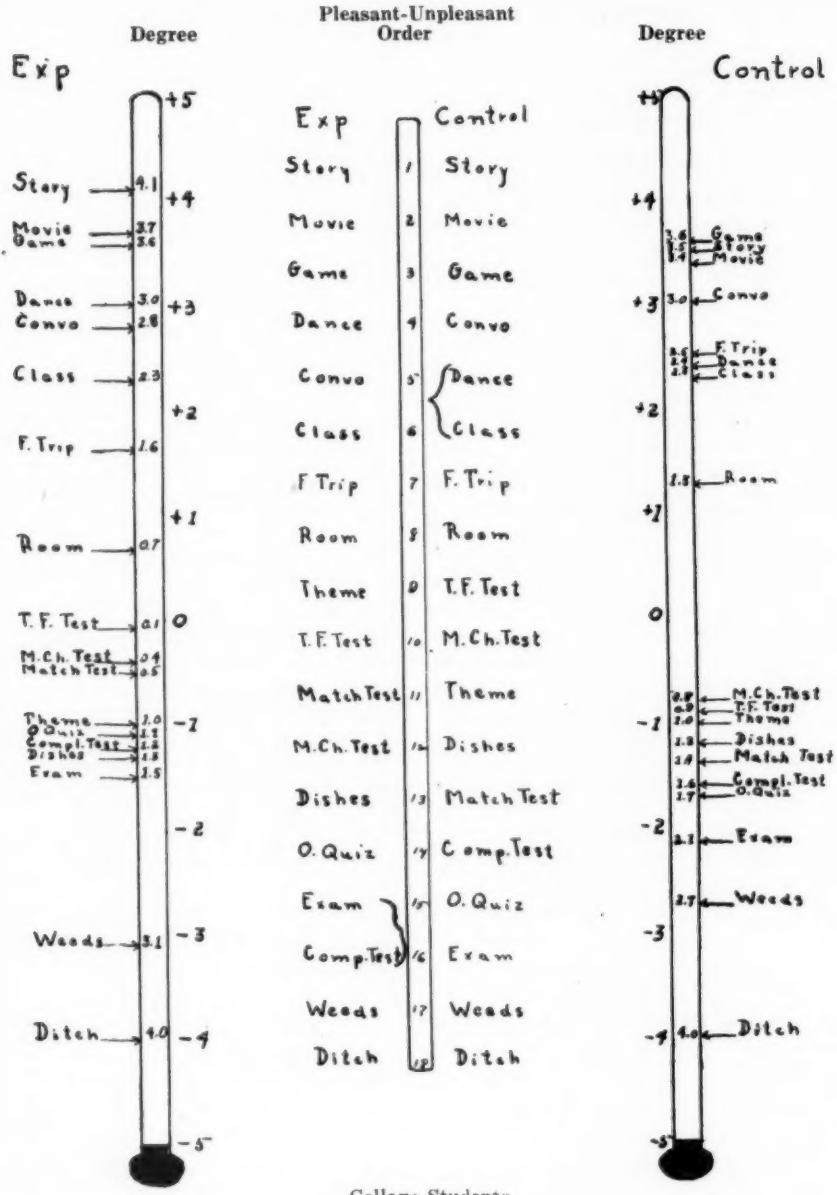
3. Effect of Forms of Test on Achievement. Two sets of measurements were taken finally: one on attitudes, another on achievement, the latter by means of a comprehensive examination composed of the new type tests. We wanted to know the effect, if any, on factual acquisitions as well as on the feeling engendered in the student by the use of this universal educational instrument. An initial measure of attitudes was first taken; training exercises were then given—and others might well have followed; and a final measure of attitudes by the same means was taken and differences computed. Such differences as may be found after due allowance is made for other factors and influences will constitute a measure of the effectiveness of these means for our present purpose. We approached the problem hopefully, but with eyes open to the possibility of but small returns from the short training period and a limited number of exercises, and we awaited the end before venturing further suggestions or drawing conclusions as to the outcome of our method of attack.

B. COMPARISON OF RESULTS

The detailed results are pictured in the drawings (Charts V, VI, VII, VIII, IX) on the following pages together with brief discussions of what appear to be the more important facts discovered. The method of determining the position of each item in the graphs was the same as that employed in Part I. The arithmetic mean for the group was the measure used in locating the point or position of the particular item on the thermometer in Charts V, VI, VII. And in Charts VIII and IX this arithmetic mean in each case was subtracted from a common standard of "Five Units" since we desired to express the measures in levels or heights instead of terms of minimum amounts. Preferred items thus are shown as standing at a higher level than those not preferred.

I. IN ATTITUDE LATER

1. In Term of Pleasantness. The attitude from the point of view of pleasantness-unpleasantness at the end of the semester is shown in Chart V below, both as to "order" and "degree" for each group—Experimental and Control.



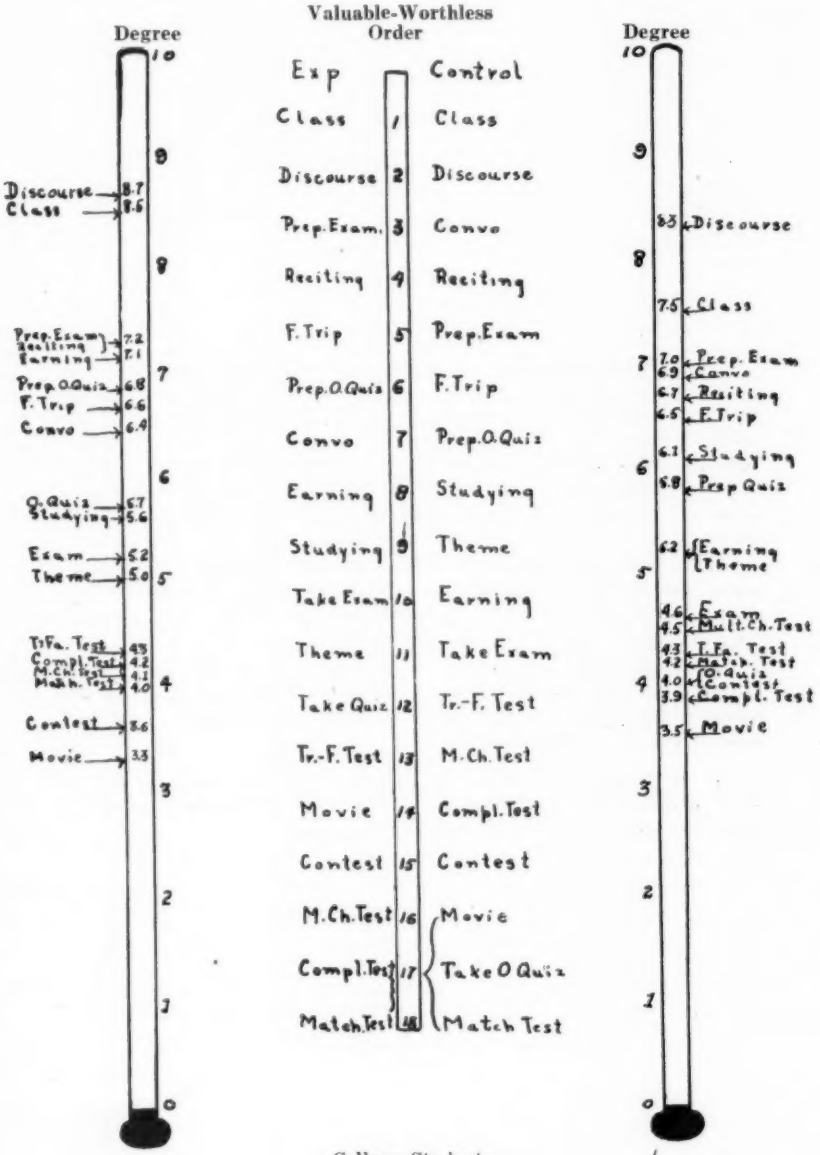
College Students
Control 71
Experimental 87
CHART V

(*a*) The Experimental group showed less distaste for T. F. (—.1) tests than did the Control group (—.9) in terms of degree—approximately one-fifth of the distance on the lower half of the scale. The same general trend seems to obtain when we compare the two groups with respect to their attitude toward the different types of tests. In the order of preference no significant difference appears; an exchange of positions of the several items is usually not more than one or two places.

(*b*) When the two groups (Experimental and Control) are compared with the original—combined—group the degree of unpleasantness for examinations is found to be practically the same: —2.1 against —1.5 and —2.1 respectively for these two.

(*c*) But there appears to be real significance in the fact that the new type in both groups is less distasteful in every case than the traditional examination whether from the standpoint of order of preference or degree of acceptability.

2. In Terms of Value. The attitude from the point of view of value-worthlessness at the end of the semester is pictured in Chart VI below for both Experimental and Control groups.



College Students
Control 71
Experimental 87

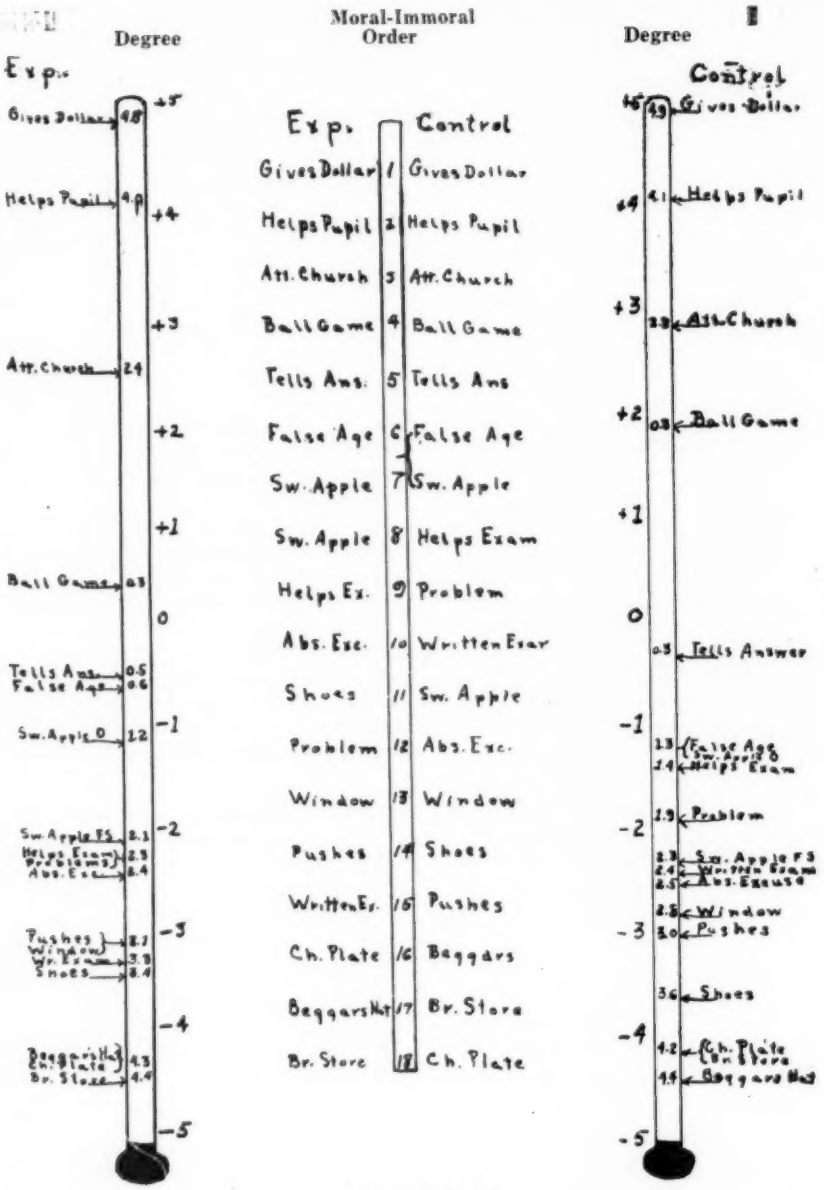
CHART VI

(*a*) The Experimental group assessed the examination at .6 degree greater value than did the Control group, both groups giving slightly more value to it, from the standpoint of benefit to them at least, than to the new type tests.

(*b*) When comparisons are made with judgments at the beginning of the semester we find the valuation for the examination (old and new) remains practically the same. One semester's experience of this character (with them) has wrought no perceptible change in value placed on this phase of their educational experience.

(*c*) It stands out rather clearly that they continue to place a greater valuation on many of the incidentals of school life than upon tests and examinations. This may be due in part to their conception of the purpose of testing—an end in itself rather than a means to a larger and a more worthwhile set of results—to certain educational objectives.

3. In Terms of "Rules of the Game." The attitude from the point of view of morality-immorality at the end of the training period is pictured in Chart VII below.



College Students
Control 71
Experimental 87

CHART VII

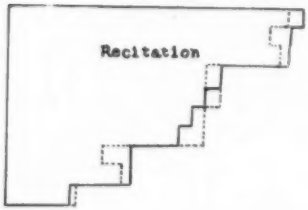
(*a*) The Experimental group condemns both "giving help" and "getting help" on tests and examinations more than does the Control group, considerably more when judged from the standpoint of order placement (fifteenth against tenth) (and "getting help" but approximately one degree lower in weight on the side of immorality). They were found to hold about the same feeling in this matter thruout the semester, no appreciable difference finally in comparison with opinions expressed at the beginning of the course.

(*b*) Again it would appear that attitudes revealed in this connection were formulated on the basis of years of experience, and it is highly improbable that such long-standing opinions could be changed appreciably in so brief a period of time (four or five months) with the instructions pertaining thereto of an incidental character.

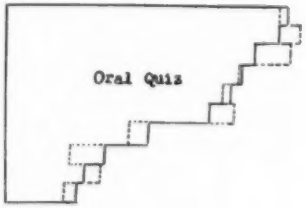
4. In Terms of Purpose and Function. The attitude from the point of view of purpose and function of examinations is pictured in Chart VIII below.

Purpose and Function of:

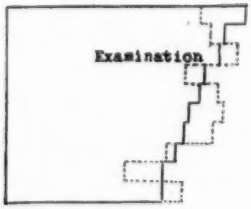
1. Opportunity for interchange of ideas
2. Opportunity for self-expression and development
3. Opportunity for clarifying ideas
4. Means of stimulating study
5. Opportunity for teacher's explanations
6. Opportunity for drilling on important facts
7. Opportunity for developing methods of study
8. Means of measuring knowledge
9. Means of measuring expression
10. Opportunity to reproduce text



1. Basis for remedial instruction
2. Means for stimulating study
3. Means for developing self-expression
4. Basis for measuring appreciation
5. Basis for measuring knowledge
6. Means for improving instruction
7. Basis for final marks
8. Means for keeping students busy
9. Opportunity for student's enjoyment
10. Opportunity for teacher's enjoyment



1. Means of impressing important facts
2. Basis for measuring knowledge
3. Means of stimulating review
4. Basis for comparing achievement
5. Means for measuring ability to think
6. Means for measuring results of teaching
7. Means for stimulating study
8. Basis for term marks
9. Means of measuring memory ability
10. Opportunity for self-expression and development



College Students
Control 71
Experimental 87

CHART VIII

INDIANA UNIVERSITY LIBRARY

(*a*) Probably the most striking point in this chart is the apparent closeness of agreement of the two groups as to the service rendered by examinations generally. The Experimental groups seem to sense the motivation value somewhat more and to weight the mere end-result of measuring pupil achievement a little less. This is at least a hopeful indication for the future.

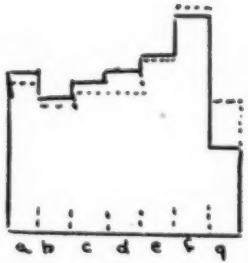
5. **In Terms of Preferred Types of Tests.** They were asked to rate the different types of tests with respect to the following points: to answer these questions by putting "1" before the form or type standing highest, "2" before the next highest, "3" before the next, "4" for the next, and "5" for the lowest.

Thorogoing test of knowledge of the subject?
Stimulates or requires rigorous thinking?
Accompanying or resulting benefit to student?
Makes for the greatest amount of fairness?
Most acceptable to you—you like best?
Easiest to take?
Most conducive to bluffing one's way thru the course—success of non-knowledge?

In Table II and Chart IX showing preference expressed the measure used was the "average of minimum summation" subtracted from a "standard five" reference point. Since an order arrangement was called for (from students) we considered it desirable to make this reversal so as to represent it in the drawing in terms of high and low levels to correspond with the preference.

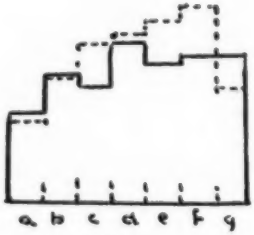
As a check on the feature of "general acceptability" they were asked to express themselves as to what form of examination we should have finally. About 80 per cent voted for either the new type entirely or a combination of the new and old (essay), there being less than 20 per cent expressing a preference for the traditional type solely!

True-False



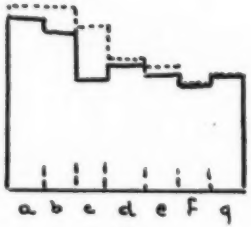
A

Best Answer



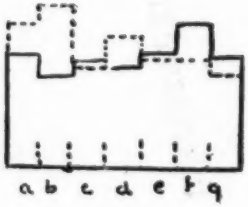
B

Completion



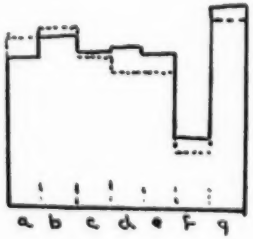
C

Matching



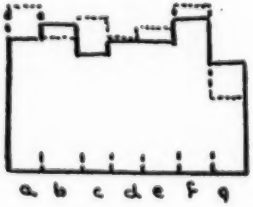
D

State and Discuss



E

New (combined)



F

NOTE

Expressed as average of minimum summation subtracted from a "standard 5" reference point. Order of preference asked for, 1 being high and 5 low.

Key to Figures

a=Knowledge.
b=Thinking.
c=Benefit.
d=Fairness.
e=Acceptability.
f=Ease of taking.
g=Bluff.

CHART IX

TABLE II.—PREFERENCES EXPRESSED FOR TYPES OF TESTS

		Knowledge		Thinking		Benefit		Fairness		Acceptability		Ease		Bluff	
		Av.	Med.	Av.	Med.	Av.	Med.	Av.	Med.	Av.	Med.	Av.	Med.	Av.	Med.
True-False	Exp.	3.3	4.0	4.0	4.0	2.9	3.0	2.9	3.0	2.4	2.0	1.6	1.0	2.4	2.0
	Con.	2.6	2.0	3.0	3.0	2.8	2.0	2.6	2.0	2.4	2.0	1.7	1.0	3.7	5.0
Multiple Choice	Exp.	3.8	4.0	3.4	4.0	2.7	3.0	2.6	3.0	2.4	2.0	2.2	2.0	2.8	3.0
	Con.	3.9	4.0	3.3	4.0	3.4	3.0	2.7	3.0	3.1	3.0	2.9	3.0	2.9	3.0
Completion	Exp.	2.4	2.0	2.4	2.0	2.8	2.0	3.2	3.0	3.3	4.0	3.5	4.0	3.4	4.0
	Con.	2.5	2.0	2.7	3.0	3.5	4.0	3.3	3.0	3.4	4.0	3.5	4.0	3.4	4.0
Matching	Exp.	3.1	3.0	2.8	3.0	3.7	4.0	3.3	3.0	3.6	4.0	3.2	3.0	3.4	4.0
	Con.	3.4	3.0	3.8	4.0	3.6	4.0	3.7	4.0	3.5	4.0	3.1	3.0	3.6	4.0
State and Discuss	Exp.	2.4	2.0	2.3	2.0	2.8	3.0	3.0	3.0	3.0	3.0	4.2	5.0	2.9	3.0
	Con.	2.6	2.0	2.4	2.0	2.2	1.0	2.4	2.0	2.3	1.0	4.0	5.0	2.0	1.0
New Type Combined	Exp.	3.2	.....	3.2	.....	2.6	.....	3.0	.....	2.9	.....	3.0	.....	3.0	.....
	Con.	3.2	.....	3.1	.....	2.8	.....	3.1	.....	3.1	.....	3.4	.....	3.3	.....

(*a*) *True-False.*

(1) Fairly high in testing knowledge by both groups.

(2) Slightly higher in general acceptability.

(3) Very high in ease of taking.

(*b*) *Multiple Choice* (*Best Answer*).

(1) The Control group rated it high on Benefit, Fairness, Ease, and General Acceptability.

(2) The Experimental group rated it somewhat lower on all of these except Fairness.

(*c*) *Completion* (*Recall*).

(1) The Control group rated this type high in knowledge and thinking required in the experience of taking it and the benefit derived from it.

(2) The Experimental group gave it high ranking on the first two of these: knowledge and thinking.

(*d*) *Matching.*

(1) The Control group favored this type of test for its requirement of knowledge and thinking and its general fairness.

(2) Members of the Experimental group were less favorable to it in these particulars.

(*e*) *State and Discuss* (*Essay*).

(1) Relatively high in possibilities to use words and "bluff" one's way along. Especially so for those who participated in the experimental work.

(2) About average for both those in the Control group and without the "Special Training" in Benefit, Fairness, and General Acceptability and considerably higher for both groups with respect to being conducive to "bluff."

(3) Both groups rated it low on Ease; considered it very difficult in comparison with the new type.

(*f*) *New Types* (*combined*).

(1) On the whole in a favorable light by both groups. Ranks fairly high in most of the important virtues and low on the side of bluff. Especially is this true as expressed by the Control group. They regarded them as relatively easy to take and thought ignorance and verbosity played a negligible part in passing them.

II. IN ABILITY AND ACHIEVEMENT

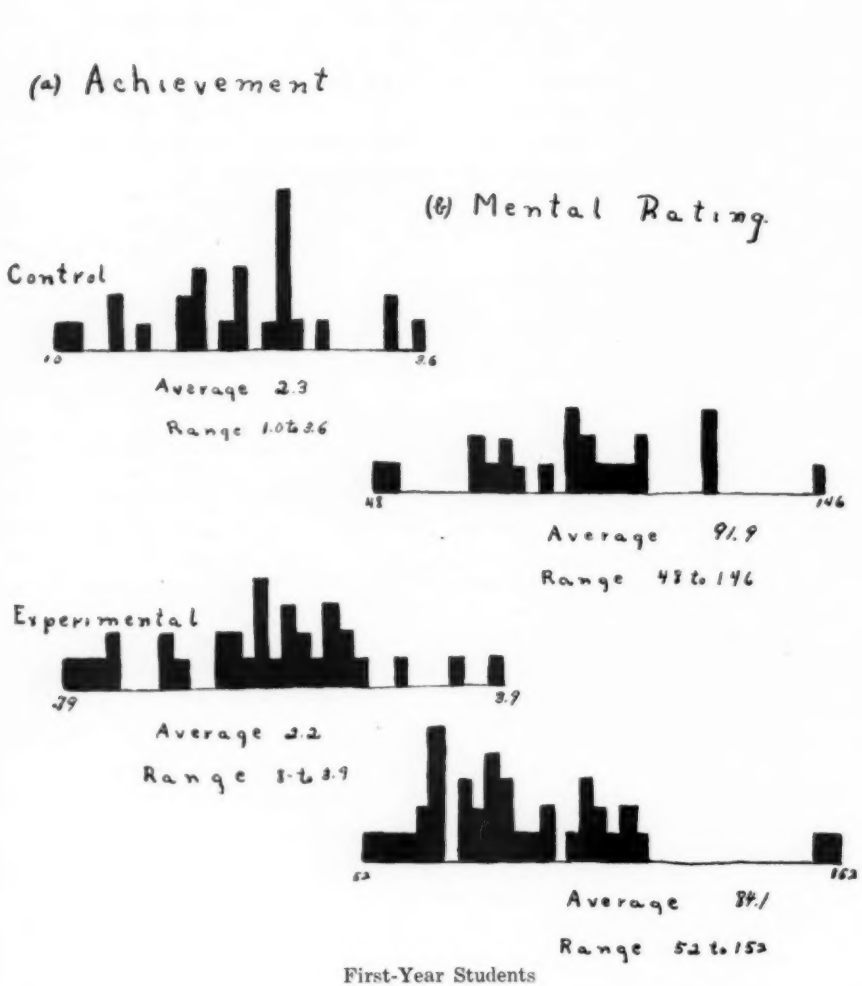
The following table (III) and Charts X, XI, and XII picture the groups used in this study with respect to their ability as indicated by their mental ratings on the basis of intelligence test scores and their general university achievement as reflected by the course marks expressed numerically. (Each mark was equated—A=4, B=3, C=2, D=1,

Condition and Failure=0—, and the average computed on the unit basis of one semester hour.) No very wide differences are to be observed in the one group over against the other, and for all practical purposes they appear to be fairly comparable.

TABLE III. COMPARISON OF GROUPS IN ABILITY AND ACHIEVEMENT

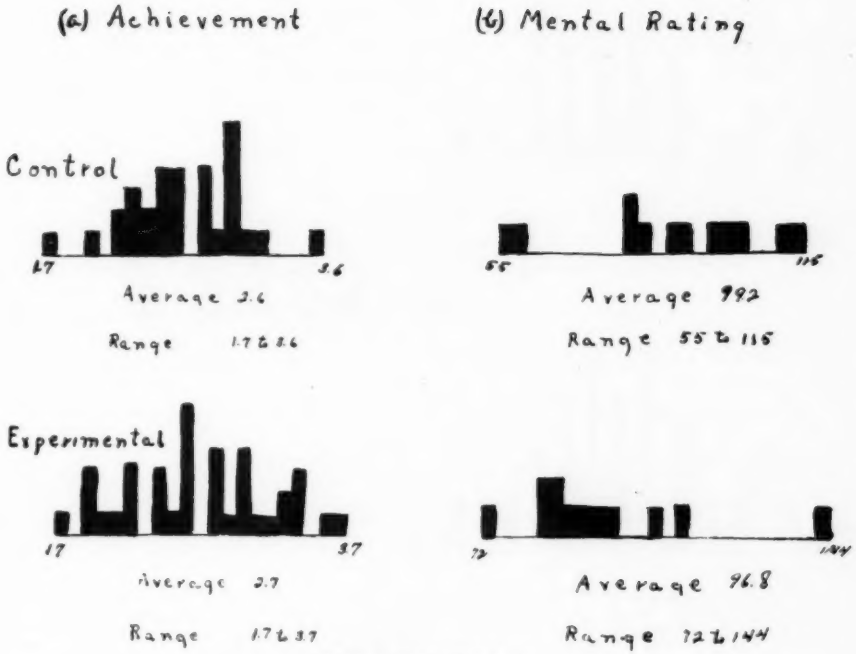
Experimental Group	*Range of Ability (Mental Ratings)*			*Control Group*
	Lowest	Average	Highest	
Section 1.....	7(5)	47(58)	99(99)	.....Section 1
Section 2.....	31(9)	65(59)	99(91)	.....Section 2
Combined	7(5)	51.3(58.5)	99(99)	..... Combined
	Range of General Achievement			
Section 1.....	0.8(1.0)	2(2.3)	3.9(3.6)	.....Section 1
Section 2.....	1.7(1.7)	2.7(2.6)	3.7(3.6)	.....Section 2
Combined	0.8(1.0)	2.46(2.48)	3.9(3.6)	..... Combined
	Range of Psychology Score (Equated)			
Section 1.....	112(88)	152(148)	189(182)	.....Section 1
Section 2.....	105(97)	152(138)	193(181)	.....Section 2
Combined	105(88)	152(143)	193(182)	..... Combined

Note: Section 1 in each case above is the group of first-year students while Section 2 is the corresponding group of advanced students. The numbers in parentheses apply to the Control groups while those outside apply to the Experimental groups.



First-Year Students

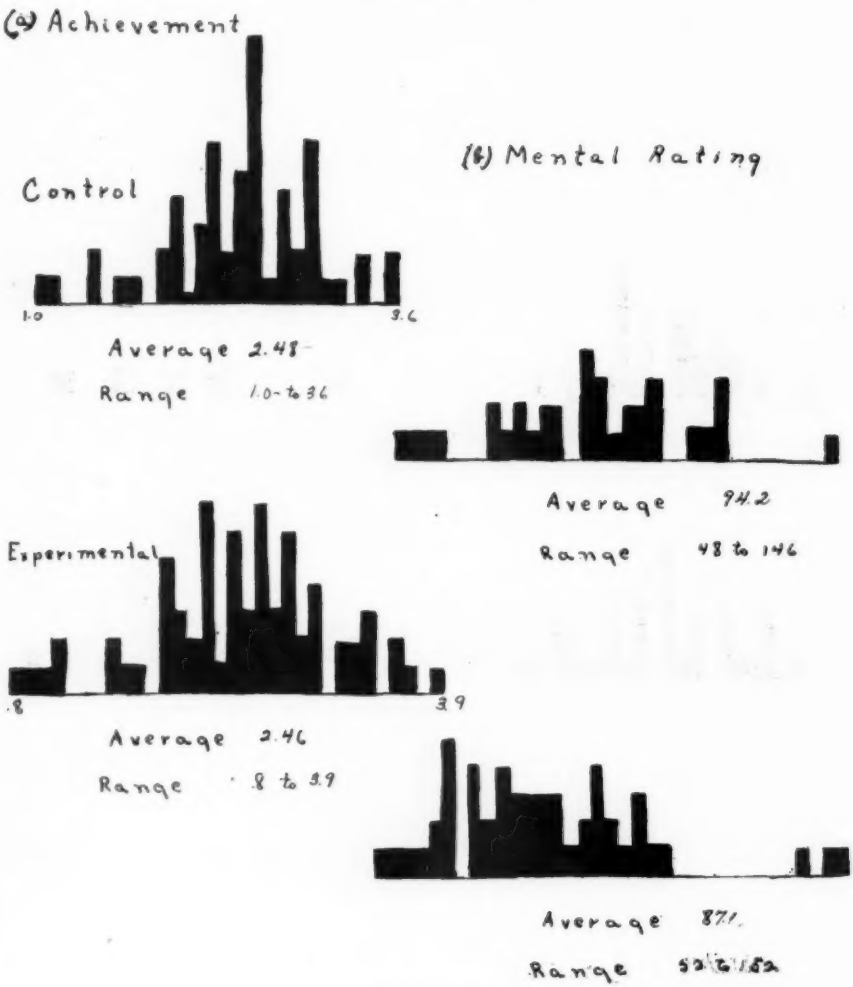
CHART X



Upper-Class Students

CHART XI

Comparison of Groups



Combined Freshmen and Upper-Class Students

CHART XII

1. Comparing the groups on the basis of mental test ratings and academic grades we note a difference in the former favoring the Control group somewhat with practically no difference in the latter. Members of the Control group stand on the average about seven points higher in percentile placement (58.5 against 51.3) in ability but they achieve no more on the average (2.48 against 2.46) in their college courses than do the members of the Experimental group.

2. Scores made in connection with the course in psychology, however, seem to be significant in favor of these periodic test exercises. The group taking the exercises, altho at a slight disadvantage in ability, scored somewhat higher on the average (152 against 143) than the other group. Apparently the exercises served the purpose of stimulating study on the part of the members generally.

C. GENERAL CONCLUSIONS AND SUGGESTIONS

1. It is clearly apparent, however, that a half-year's experience with the new type tests conducted in the foregoing manner does not suffice to overcome attitudes and feelings toward the subject of tests and examinations. What has been developing in the course of years is not to be counteracted in the brief duration of a few months and in connection with but one subject. It may be that concentrated effort on a wide coöperative basis of the entire staff would affect appreciably increased changes, but that is a matter for future study. The "drift" thruout this attempt, however, seems indicative of hopeful outcomes on a larger scale if prosecuted systematically for a longer time.

2. The attitude of the Experimental group in comparison with the Control group improved somewhat. They reflected growth in their conception of the purpose and function of tests and examinations, and "drifts" in their attitudes otherwise indicate decreased hostility toward them.

3. But the idea of the fundamental functions and purposes of tests expressed by these groups, considered individually or combined, is clearly far different from that met with in representative current educational literature. The emphasis by our leading modern writers is on the "educative value of tests": means of motivating study, stimulating thinking and self-expression, stamping in important values, and measuring results of teaching. Students are apparently not clear in their own minds that such are the really significant values of tests. And their ideas are doubtless due in part, if not largely, to the misconception and misuse of tests on the part of teachers generally, a case probably of passing on misinformation and distorted attitudes from the one generation to the next.

4. The remedy can best come—and probably only come—from clearly conceiving these fundamental values ourselves, if such they be, and then by systematic, orderly, and consistent practice and application to our own work. We cannot cling to an idea and practice its opposite with much hope of the idea reaching the goal and not the practiced point.

If we make tests serve us in merely measuring the student's achievement and fail to hold ourselves responsible directly somehow for such achievement as the fruits or results of our teaching; if we use the score thus made merely as the basis for term marks and fail to modify our methods of training in the light of such comparative scores; and if the nature and character of our tests be such as to measure the effects of cramming and memory ability and fail to provide for the "thinking activities" in meeting novel situations, then our disappointments will be many and great if we expect students to develop notions and attitudes otherwise than in harmony with the purposes we thus make tests and examinations serve.

5. When the two groups are compared in ability and achievement it is apparent that the group which took the periodic tests achieved somewhat more in that particular subject, altho no better in other subjects and at a slight disadvantage in general ability as indicated by their mental ratings. We may reasonably infer that these differences are somehow connected with the experience in taking the test exercises altho they involved a different content from that of the final examination.

6. We may confidently conclude that the new type tests are really valuable if, and when, properly used for molding desirable attitudes toward measurement of the product of classroom instruction. They lend themselves to the point of view of coöperative activity of pupil and teacher in the processes of education, of shared responsibility of these two for outcomes in school effort. Teacher and pupil become colaborers in instructional activities and each has his duty and responsibility—one to check up on progress made with a view to further activity and the other to assist in rendering a fair measure of his achievement with a view to benefiting by the follow-up measures that may be deemed both desirable and advisable.

Appendix

PERSONAL DATA

1. Name .....
2. Age.....Years; .....Months.
3. Are you planning to graduate? .....
4. If not, how long will you remain in school? .....
5. What do you plan to do after leaving school? .....
6. What do you plan to do as a life's work? .....
7. How many brothers have you? ..... Sisters? .....
8. How many brothers have taught school?..... Sisters?.....
9. Did your father ever teach school? ..... Mother? .....
10. What is your father's occupation? .....
11. What is the family annual income (approximately)? .....
12. Are you paying your way thru school? Wholly?.....
    In part? .....
13. What subject did you like best in High School? .....
    Your second choice? .....
14. What subject do you like best now?.....
    Your second choice?.....
15. To what class do you belong?
    Freshman..... Sophomore..... Junior.....
    Senior..... Graduate.....

Pleasant—Unpleasant

1. Number the following activities, listed below, in the order of their pleasantness-unpleasantness (agreeableness-disagreeableness) to you in *Column I*. And in *Column II* assign to each a value not to exceed *plus five* or *minus five*. That is—

   (*a*) First, in *Column I* put in the parentheses *before* the most pleasant or agreeable activity "1" and *before* the most unpleasant or disagreeable activity "18." Before the next most pleasant or agreeable "2," and next most unpleasant or disagreeable "17," and so on thruout the list.

   (*b*) Then in *Column II* put in the parentheses after the most pleasant or agreeable activity "+5" and after the most unpleasant or disagreeable activity "—5." And *after* each of the others some number between "plus five" and "minus five" (+5, +4, +3, +2, +1, 0, —1, —2, —3, —4, —5) which you think is the proper degree of pleasantness or unpleasantness of the particular activity. Use no fractions. And be sure to place the proper sign before each number used; "plus" indicates pleasant and "minus" means unpleasant.

Column I		*Column II*
( )	Attending classes	( )
( )	Attending a convocation or assembly.....	( )
( )	Attending a dance.....	( )
( )	Attending a movie.....	( )
( )	Cleaning your room.....	( )
( )	Digging a ditch.....	( )
( )	Going on a field trip or excursion.....	( )

( ) Pulling weeds ..... ( )
( ) Reading a good story ..... ( )
( ) Taking an examination (state or discuss type) ..... ( )
( ) Taking a completion test ..... ( )
( ) Taking a matching test ..... ( )
( ) Taking a multiple choice test ..... ( )
( ) Taking a true-false test ..... ( )
( ) Taking an oral quiz ..... ( )
( ) Washing dishes ..... ( )
( ) Writing a theme or composition ..... ( )
( ) Witnessing a basketball game ..... ( )

Valuable-Worthless

2. Number the following activities, listed below, in the order of the amount of benefit you receive from them in *Column I.* And in *Column II* assign to each one a value somewhere from 0 to 10. That is—

(*a*) First, in *Column I* put in the parentheses *before* the most valuable or worthwhile activity "1," and before the least worthwhile activity "18." Before the next most valuable "2," the next least valuable "17," and so on thruout the list.

(*b*) Then, in *Column II* put in the parentheses after the most valuable or worthwhile activity "10" and after the least worthwhile activity "0." And after each of the others some number between "ten" and "zero" (10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0) which you think is the proper amount or degree of value of the particular activity. The larger numbers in this column (Column II) are used to mean the greater values. Use no fractions.

Column I *Column II*

( ) Attending an athletic contest ..... ( )
( ) Attending class ..... ( )
( ) Attending a convocation or assembly ..... ( )
( ) Attending a movie ..... ( )
( ) Discourse or explanation by the instructor ..... ( )
( ) Earning a dollar (or two) by working ..... ( )
( ) Going on a field trip or excursion ..... ( )
( ) Preparing for examination ..... ( )
( ) Preparing for an oral quiz ..... ( )
( ) Reciting in class ..... ( )
( ) Studying with someone ..... ( )
( ) Taking an examination (state or discuss type) ..... ( )
( ) Taking an oral quiz ..... ( )
( ) Taking a completion test ..... ( )
( ) Taking a matching test ..... ( )
( ) Taking a multiple choice test ..... ( )
( ) Taking a true-false test ..... ( )
( ) Writing a theme or composition ..... ( )

Moral-Immoral

3. Number the following activities, listed below, in the order of their acceptability-unacceptability (*morally right or morally wrong*) to you in *Column I*. And in *Column II* assign to each one a value not to exceed plus five or minus five. That is—

(*a*) First, in *Column I* put in the parentheses *before* the most acceptable or most moral activity "1" and before the most unacceptable or most immoral activity "18." Before the next most acceptable or moral "2," the next most unacceptable or immoral "17," and so on thruout the list.

(*b*) Then, in *Column II* put in the parentheses after the most acceptable or most moral "+5" and *after* the most unacceptable or most immoral "—5." And *after* each of the others some number between "plus-five" and "minus-five" (+5, +4, +3, +2, +1, 0, —1, —2, —3, —4, —5) which you think is the proper degree of rightness or wrongness attaching to that particular activity. Use no fractions. Be sure to place some number for each of the activities even tho you have to use some of the numbers several times. And be sure to place the proper sign before each number used—"plus" indicates *morally-right* and "minus" means *morally-wrong*! (Assume the boy in this case to be about 14 or 15 years of age.)

Column I		*Column II*
( )	Absents self from school to attend baseball game....	( )
( )	Absents self from school to attend church.....	( )
( )	Gets help on written test or examination.....	( )
( )	Breaks into a store at night and robs it.....	( )
( )	Breaks school window-pane intentionally with rock..	( )
( )	Gives half of his last dollar to a person in need....	( )
( )	Gives help on a written examination.....	( )
( )	Hands in problems worked for him by older brother.	( )
( )	Helps pupil who has difficulty with his lesson.....	( )
( )	Presents "absence excuse" obtained thru falsehood..	( )
( )	Pushes, intentionally, another boy off high steps....	( )
( )	Steals an apple from a fruit stand.....	( )
( )	Steals an apple from an orchard.....	( )
( )	Steals a pair of shoes from a store.....	( )
( )	Takes out more than he puts into a beggar's hat....	( )
( )	Takes out more than he puts into a church plate....	( )
( )	Tells classmate answer to question in recitation....	( )
( )	Tells falsehood about age to get a position or job...	( )

Purpose and Function of

List the statements under A, B, and C, below in the order of their correctness. That is, put "1" in the parentheses *before* the *best* statement—the statement you think is most nearly true—in each group; "2" before the *second best*; "3" before the *third best*; and so on thruout each of the ten statements.

A. The chief purpose or function of the recitation (questioning in class, etc.) is to serve as

( ) An apportunity for exchanging ideas.
( ) An opportunity for student self-expression and development.
( ) An opportunity for student to clarify his ideas.
( ) A means of finding out how much student knows about subject.
( ) A means of finding out how well student expresses himself.
( ) A means of stimulating students to study.
( ) An opportunity for developing proper methods of study.
( ) An opportunity for drilling on important facts.
( ) An opportunity for teacher to explain and discuss things (points).
( ) An opportunity for students to reproduce as much text book information as possible—as the time will permit.

B. The chief purpose or function of an oral quiz (given from time to time thruout the course) is to serve as

( ) A basis for final marks or grades.
( ) A basis for measuring students' knowledge of the subject.
( ) A basis for measuring students' application to the subject.
( ) A basis for remedial instruction.
( ) A means of stimulating students to study.
( ) A means of developing self-expression in students.
( ) A means of improving instruction.
( ) An opportunity for students' enjoyment.
( ) An opportunity for teachers' enjoyment.
( ) A means of keeping students busy.

C. The chief purpose or function of the final examination is to serve as

( ) A basis for term marks or grades.
( ) A basis for measuring students' knowledge of the subject.
( ) A basis for comparing achievement of individual with group.
( ) A means of measuring results of teaching.
( ) A means of measuring students' memory ability.
( ) A means of stimulating students to study.
( ) A means of measuring students' ability to think.
( ) A means of stimulating students to review.
( ) A means of emphasizing and impressing important facts.
( ) An opportunity for student's self-expression and development.